

Sunnyside Hsg - Proposed Hydrocad 07-26-23
Prepared by Samiotes Consultants
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Area Listing (all nodes)

Area	CN	Description
 (acres)		(subcatchment-numbers)
0.040	61	>75% Grass cover, Good, HSG B (PR-1, PR-2)
0.339	98	Paved parking, HSG B (PR-1, PR-2)
0.379	94	TOTAL AREA

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Soil Listing (all nodes)

Area	Soil	Subcatchment
(acres)	Group	Numbers
0.000	HSG A	
0.379	HSG B	PR-1, PR-2
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.379		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.040	0.000	0.000	0.000	0.040	>75% Grass cover, Good	PR-1,
							PR-2
0.000	0.339	0.000	0.000	0.000	0.339	Paved parking	PR-1,
							PR-2
0.000	0.379	0.000	0.000	0.000	0.379	TOTAL AREA	

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Type III 24-hr 2 yr Rainfall=3.28" Printed 7/27/2023

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPR-1: PR-1 Runoff Area=15,800 sf 90.59% Impervious Runoff Depth=2.72"

Tc=6.0 min CN=95 Runoff=1.07 cfs 0.082 af

SubcatchmentPR-2: PR-2 Runoff Area=700 sf 64.71% Impervious Runoff Depth=1.83"

Tc=6.0 min CN=85 Runoff=0.03 cfs 0.002 af

Pond DW-1: DW-1 Peak Elev=10.56' Storage=13 cf Inflow=1.07 cfs 0.082 af

10.0" Round Culvert n=0.012 L=9.0' S=0.0111 '/' Outflow=1.07 cfs 0.082 af

Link POA: POA Inflow=1.10 cfs 0.085 af

Primary=1.10 cfs 0.085 af

Total Runoff Area = 0.379 ac Runoff Volume = 0.085 af Average Runoff Depth = 2.69" 10.51% Pervious = 0.040 ac 89.49% Impervious = 0.339 ac

Type III 24-hr 2 yr Rainfall=3.28" Printed 7/27/2023

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Summary for Subcatchment PR-1: PR-1

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.082 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 2 yr Rainfall=3.28"

A	rea (sf)	CN	Description				
	14,313	98	Paved parking, HSG B				
	1,487	61	>75% Grass cover, Good, HSG B				
	15,800	95	95 Weighted Average				
	1,487						
	14,313	90.59% Impervious Area			rea		
То	Longth	Clana	Valacity	Consoity	Description		
Tc	Length	Slope	,	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry,		

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Summary for Subcatchment PR-2: PR-2

Runoff = 0.03 cfs @ 12.09 hrs, Volume= 0.002 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 2 yr Rainfall=3.28"

	Area (sf)	CN I	Description				
	453	98	Paved parking, HSG B				
	247	61	>75% Grass cover, Good, HSG B				
	700	85 \	Weighted Average				
	247	;	35.29% Pervious Area				
	453	(64.71% lmp	pervious Ar	ea		
Tc	3	Slope	,	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry		

6.0

Type III 24-hr 2 yr Rainfall=3.28" Printed 7/27/2023

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Summary for Pond DW-1: DW-1

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

0.363 ac, 90.59% Impervious, Inflow Depth = 2.72" for 2 yr event Inflow Area =

Inflow 1.07 cfs @ 12.09 hrs, Volume= 0.082 af

1.07 cfs @ 12.09 hrs, Volume= Outflow 0.082 af, Atten= 0%, Lag= 0.2 min =

Primary = 1.07 cfs @ 12.09 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Peak Elev= 10.56' @ 12.09 hrs Surf.Area= 33 sf Storage= 13 cf

Plug-Flow detention time= 0.6 min calculated for 0.082 af (100% of inflow)

Center-of-Mass det. time= 0.6 min (780.8 - 780.2)

Volume	Invert	Avail.Storage	Storage Description
#1	9.85'	29 cf	3.50'D x 3.00'H Vertical Cone/CylinderInside #2
			38 cf Overall - 3.0" Wall Thickness = 29 cf
#2	9.85'	31 cf	6.50'D x 3.50'H Stone
			116 cf Overall - 38 cf Embedded = 78 cf x 40.0% Voids
#3	12.40'	1 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

62 cf Total Available Storage

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
12.40	1	0	0
13.00	4	1	1

Device	Routing	Invert	Outlet Devices
#1	Primary	9.85'	10.0" Round Culvert
			L OOL ODD was to still a second

L= 9.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.85' / 9.75' S= 0.0111 '/' Cc= 0.900 n= 0.012, Flow Area= 0.55 sf

Primary OutFlow Max=1.05 cfs @ 12.09 hrs HW=10.55' TW=0.00' (Dynamic Tailwater) **1=Culvert** (Barrel Controls 1.05 cfs @ 2.87 fps)

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Stage-Area-Storage for Pond DW-1: DW-1

		•	
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
9.85	0	12.45	47
9.90	1	12.50	47
9.95	2	12.55	48
10.00	3	12.60	49
10.05	4 4	12.65	50 51
10.10 10.15	4 5	12.70 12.75	51 52
10.13	6	12.73	54
10.25	7	12.85	55
10.30	8	12.90	55
10.35	9	12.95	56
10.40	10	13.00	57
10.45 10.50	11 12	13.05 13.10	58 58
10.55	13	13.10	59
10.60	13	13.20	60
10.65	14	13.25	60
10.70	15	13.30	61
10.75	16	13.35	62
10.80	17		
10.85 10.90	18 19		
10.95	20		
11.00	21		
11.05	21		
11.10	22		
11.15	23		
11.20 11.25	24 25		
11.30	26 26		
11.35	27		
11.40	28		
11.45	29		
11.50	29		
11.55	30		
11.60 11.65	31 32		
11.70	33		
11.75	34		
11.80	35		
11.85	36		
11.90	37		
11.95	38		
12.00 12.05	38 39		
12.10	40		
12.15	41		
12.20	42		
12.25	43		
12.30	44		
12.35 12.40	45 46		
12.40	40		

Type III 24-hr 2 yr Rainfall=3.28" Printed 7/27/2023

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Summary for Link POA: POA

Inflow Area = 0.379 ac, 89.49% Impervious, Inflow Depth = 2.69" for 2 yr event

Inflow = 1.10 cfs @ 12.09 hrs, Volume= 0.085 af

Primary = 1.10 cfs @ 12.09 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10 yr Rainfall=5.17" Printed 7/27/2023

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPR-1: PR-1 Runoff Area=15,800 sf 90.59% Impervious Runoff Depth=4.59"

Tc=6.0 min CN=95 Runoff=1.75 cfs 0.139 af

SubcatchmentPR-2: PR-2 Runoff Area=700 sf 64.71% Impervious Runoff Depth=3.53"

Tc=6.0 min CN=85 Runoff=0.06 cfs 0.005 af

Pond DW-1: DW-1 Peak Elev=10.98' Storage=20 cf Inflow=1.75 cfs 0.139 af

10.0" Round Culvert n=0.012 L=9.0' S=0.0111 '/' Outflow=1.75 cfs 0.139 af

Link POA: POA Inflow=1.81 cfs 0.143 af

Primary=1.81 cfs 0.143 af

Total Runoff Area = 0.379 ac Runoff Volume = 0.143 af Average Runoff Depth = 4.54" 10.51% Pervious = 0.040 ac 89.49% Impervious = 0.339 ac

Type III 24-hr 10 yr Rainfall=5.17" Printed 7/27/2023

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Summary for Subcatchment PR-1: PR-1

Runoff 1.75 cfs @ 12.09 hrs, Volume= 0.139 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 10 yr Rainfall=5.17"

A	rea (sf)	CN	Description				
	14,313	98	Paved parking, HSG B				
	1,487	61	>75% Grass cover, Good, HSG B				
	15,800	95	95 Weighted Average				
	1,487		9.41% Perv	ious Area			
	14,313		90.59% Impervious Area				
_				_			
Tc	Length	Slope	,	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry		

6.0

Type III 24-hr 10 yr Rainfall=5.17" Printed 7/27/2023

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Summary for Subcatchment PR-2: PR-2

Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Depth= 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 10 yr Rainfall=5.17"

	Α	rea (sf)	CN	Description				
		453	98	Paved parking, HSG B				
		247	61	>75% Grass cover, Good, HSG B				
		700	85	5 Weighted Average				
		247	;	35.29% Per	rvious Area			
		453	(64.71% Impervious Area				
	_							
	Tc	Length	Slope	,	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	6.0					Discot Fotos		

6.0

Type III 24-hr 10 yr Rainfall=5.17" Printed 7/27/2023

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Summary for Pond DW-1: DW-1

Inflow Area = 0.363 ac, 90.59% Impervious, Inflow Depth = 4.59" for 10 yr event

Inflow = 1.75 cfs @ 12.09 hrs, Volume= 0.139 af

Outflow = 1.75 cfs @ 12.09 hrs, Volume= 0.139 af, Atten= 0%, Lag= 0.2 min

Primary = 1.75 cfs @ 12.09 hrs, Volume= 0.139 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Peak Elev= 10.98' @ 12.09 hrs Surf.Area= 33 sf Storage= 20 cf

Plug-Flow detention time= 1.0 min calculated for 0.139 af (100% of inflow) Center-of-Mass det. time= 0.5 min (767.9 - 767.4)

Volume	Invert	Avail.Storage	Storage Description
#1	9.85'	29 cf	3.50'D x 3.00'H Vertical Cone/CylinderInside #2
			38 cf Overall - 3.0" Wall Thickness = 29 cf
#2	9.85'	31 cf	6.50'D x 3.50'H Stone
			116 cf Overall - 38 cf Embedded = 78 cf x 40.0% Voids
#3	12.40'	1 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

62 cf Total Available Storage

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
12.40	1	0	0
13.00	4	1	1

Device	Routing	Invert	Outlet Devices
#1	Primary	9.85'	10.0" Round Culvert

L= 9.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.85' / 9.75' S= 0.0111 '/' Cc= 0.900

n= 0.012, Flow Area= 0.55 sf

Primary OutFlow Max=1.71 cfs @ 12.09 hrs HW=10.95' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 1.71 cfs @ 3.14 fps)

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Stage-Area-Storage for Pond DW-1: DW-1

		_	_
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
9.85	Ó	12.45	47
9.90	1	12.50	47
9.95	2	12.55	48
	2		
10.00	3	12.60	49
10.05	4	12.65	50
10.10	4	12.70	51
10.15	5	12.75	52
10.20	6	12.80	54
10.25	7	12.85	55
10.30	8	12.90	55
10.35	9	12.95	56
10.40	10	13.00	57
10.45	11	13.05	58
10.50	12	13.10	58
10.55	13	13.15	59
10.60	13	13.20	60
10.65	14	13.25	60
10.70	15	13.30	61
10.75	16	13.35	62
10.80	17		
10.85	18		
10.90	19		
10.95	20		
11.00	21		
11.05	21		
11.10	22		
11.15	23		
11.20	24		
11.25	25		
11.30	26		
11.35	27		
11.40	28		
11.45	29		
11.50	29		
11.55	30		
11.60	31		
11.65	32		
11.70	33		
11.75	34		
11.80	35		
11.85	36		
11.90	37		
11.95	38		
12.00	38		
12.05	39		
12.10	40		
12.15	41		
12.20	42		
12.25	43		
12.30	44		
12.35	45		
12.40	46		

Type III 24-hr 10 yr Rainfall=5.17" Printed 7/27/2023

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Summary for Link POA: POA

Inflow Area = 0.379 ac, 89.49% Impervious, Inflow Depth = 4.54" for 10 yr event

Inflow = 1.81 cfs @ 12.09 hrs, Volume= 0.143 af

Primary = 1.81 cfs @ 12.09 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Type III 24-hr 25 yr Rainfall=6.35" Printed 7/27/2023

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPR-1: PR-1 Runoff Area=15,800 sf 90.59% Impervious Runoff Depth=5.76"

Tc=6.0 min CN=95 Runoff=2.17 cfs 0.174 af

SubcatchmentPR-2: PR-2 Runoff Area=700 sf 64.71% Impervious Runoff Depth=4.63"

Tc=6.0 min CN=85 Runoff=0.08 cfs 0.006 af

Pond DW-1: DW-1 Peak Elev=11.36' Storage=27 cf Inflow=2.17 cfs 0.174 af

10.0" Round Culvert n=0.012 L=9.0' S=0.0111 '/' Outflow=2.17 cfs 0.174 af

Link POA: POA Inflow=2.25 cfs 0.180 af

Primary=2.25 cfs 0.180 af

Total Runoff Area = 0.379 ac Runoff Volume = 0.180 af Average Runoff Depth = 5.71" 10.51% Pervious = 0.040 ac 89.49% Impervious = 0.339 ac

Type III 24-hr 25 yr Rainfall=6.35" Printed 7/27/2023

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Summary for Subcatchment PR-1: PR-1

Runoff 2.17 cfs @ 12.09 hrs, Volume= 0.174 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 25 yr Rainfall=6.35"

A	rea (sf)	CN I	Description				
	14,313	98	Paved park	ing, HSG B	3		
	1,487	61	>75% Grass cover, Good, HSG B				
	15,800	95 \	Weighted Average				
	1,487	9	9.41% Pervious Area				
	14,313	(90.59% Impervious Area				
_							
Tc	Length	Slope	,	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry		

6.0

Type III 24-hr 25 yr Rainfall=6.35" Printed 7/27/2023

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Summary for Subcatchment PR-2: PR-2

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 25 yr Rainfall=6.35"

	Α	rea (sf)	CN	Description				
•		453	98	Paved parking, HSG B				
		247	61	>75% Grass cover, Good, HSG B				
		700	85	Weighted Average				
		247		35.29% Pervious Area				
		453		64.71% Impervious Area				
	_				_			
	Tc	Length	Slope	,	Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	6.0					Direct Entry		

6.0

Type III 24-hr 25 yr Rainfall=6.35"

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Summary for Pond DW-1: DW-1

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.363 ac, 90.59% Impervious, Inflow Depth = 5.76" for 25 yr event

Inflow = 2.17 cfs @ 12.09 hrs, Volume= 0.174 af

Outflow = 2.17 cfs @ 12.09 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.3 min

Primary = 2.17 cfs @ 12.09 hrs, Volume= 0.174 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Peak Elev= 11.36' @ 12.09 hrs Surf.Area= 33 sf Storage= 27 cf

Plug-Flow detention time= 0.5 min calculated for 0.174 af (100% of inflow)

Center-of-Mass det. time= 0.5 min (762.7 - 762.3)

Volume	Invert	Avail.Storage	Storage Description
#1	9.85'	29 cf	3.50'D x 3.00'H Vertical Cone/CylinderInside #2
			38 cf Overall - 3.0" Wall Thickness = 29 cf
#2	9.85'	31 cf	6.50'D x 3.50'H Stone
			116 cf Overall - 38 cf Embedded = 78 cf x 40.0% Voids
#3	12.40'	1 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

62 cf Total Available Storage

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
12.40	1	0	0
13.00	4	1	1

Device	Routing	Invert	Outlet Devices
#1	Primary	9.85'	10.0" Round Culvert
			L= 9.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 9.85' / 9.75' S= 0.0111 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.55 sf

Primary OutFlow Max=2.13 cfs @ 12.09 hrs HW=11.32' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 2.13 cfs @ 3.91 fps)

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Stage-Area-Storage for Pond DW-1: DW-1

		- co.go /
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)
9.85	0 1	12.45 12.50
9.90 9.95	2	12.50
10.00	3	12.60
10.05 10.10	4 4	12.65 12.70
10.15	5	12.75
10.20	6	12.80
10.25 10.30	7 8	12.85 12.90
10.35	9	12.95
10.40 10.45	10 11	13.00 13.05
10.43	12	13.10
10.55	13	13.15
10.60 10.65	13 14	13.20 13.25
10.70	15	13.30
10.75 10.80	16 17	13.35
10.85	18	
10.90 10.95	19 20	
11.00	21	
11.05	21	
11.10 11.15	22 23	
11.20	24	
11.25 11.30	25 26	
11.35	27	
11.40 11.45	28 29	
11.50	29	
11.55 11.60	30 31	
11.65	32	
11.70 11.75	33 34	
11.73	35 35	
11.85	36	
11.90 11.95	37 38	
12.00	38	
12.05 12.10	39 40	
12.15	41	
12.20 12.25	42 43	
12.30	44	
12.35 12.40	45 46	
12.70	70	

Elevation	Storage
(feet)	(cubic-feet)
12.45	47
12.50	47
12.55	48
12.60	49
12.65	50
12.70	51
12.75	52
12.80	54
12.85	55
12.90	55
12.95	56
13.00	57
13.05	58
13.10	58
13.15	59
13.20	60
13.25	60
13.30	61
13.35	62

Type III 24-hr 25 yr Rainfall=6.35"

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Summary for Link POA: POA

Inflow Area = 0.379 ac, 89.49% Impervious, Inflow Depth = 5.71" for 25 yr event

Inflow = 2.25 cfs @ 12.09 hrs, Volume= 0.180 af

Primary = 2.25 cfs @ 12.09 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Type III 24-hr 100 yr Rainfall=8.17" Printed 7/27/2023

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPR-1: PR-1 Runoff Area=15,800 sf 90.59% Impervious Runoff Depth=7.57"

Tc=6.0 min CN=95 Runoff=2.81 cfs 0.229 af

SubcatchmentPR-2: PR-2 Runoff Area=700 sf 64.71% Impervious Runoff Depth=6.38"

Tc=6.0 min CN=85 Runoff=0.11 cfs 0.009 af

Pond DW-1: DW-1 Peak Elev=12.10' Storage=40 cf Inflow=2.81 cfs 0.229 af

10.0" Round Culvert n=0.012 L=9.0' S=0.0111 '/' Outflow=2.81 cfs 0.229 af

Link POA: POA

Primary=2.92 cfs 0.237 af

Total Runoff Area = 0.379 ac Runoff Volume = 0.237 af Average Runoff Depth = 7.52" 10.51% Pervious = 0.040 ac 89.49% Impervious = 0.339 ac

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Summary for Subcatchment PR-1: PR-1

Runoff = 2.81 cfs @ 12.09 hrs, Volume= 0.229 af, Depth= 7.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 100 yr Rainfall=8.17"

Aı	rea (sf)	CN I	Description				
	14,313	98	Paved parking, HSG B				
	1,487	61 :	>75% Grass cover, Good, HSG B				
	15,800	95 \	95 Weighted Average				
	1,487	9	9.41% Pervious Area				
	14,313	,	90.59% Impervious Area				
_				_			
Tc	Length	Slope	,	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Discot Fates		

6.0

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Summary for Subcatchment PR-2: PR-2

Runoff = 0.11 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 6.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs Type III 24-hr 100 yr Rainfall=8.17"

A	rea (sf)	CN	Description					
	453	98	Paved parking, HSG B					
	247	61	>75% Grass cover, Good, HSG B					
	700	85	Weighted Average					
	247	;	35.29% Pervious Area					
	453	(64.71% Impervious Area					
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	,	(cfs)	Description			
6.0	(1301)	(1010)	(1000)	(010)	Direct Entry,			
0.0					Direct Entry,			

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Summary for Pond DW-1: DW-1

Inflow Area = 0.363 ac, 90.59% Impervious, Inflow Depth = 7.57" for 100 yr event

Inflow = 2.81 cfs @ 12.09 hrs, Volume= 0.229 af

Outflow = 2.81 cfs @ 12.09 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.4 min

Primary = 2.81 cfs @ 12.09 hrs, Volume= 0.229 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Peak Elev= 12.10' @ 12.09 hrs Surf.Area= 33 sf Storage= 40 cf

Plug-Flow detention time= 0.9 min calculated for 0.229 af (100% of inflow)

Center-of-Mass det. time= 0.4 min (757.0 - 756.6)

Volume	Invert	Avail.Storage	Storage Description
#1	9.85'	29 cf	3.50'D x 3.00'H Vertical Cone/CylinderInside #2
			38 cf Overall - 3.0" Wall Thickness = 29 cf
#2	9.85'	31 cf	6.50'D x 3.50'H Stone
			116 cf Overall - 38 cf Embedded = 78 cf x 40.0% Voids
#3	12.40'	1 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

62 cf Total Available Storage

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
12.40	1	0	0
13.00	4	1	1

Device	Routing	Invert	Outlet Devices
#1	Primary	9.85'	10.0" Round Culvert

L= 9.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 9.85' / 9.75' S= 0.0111'/' Cc= 0.900

n= 0.012, Flow Area= 0.55 sf

Primary OutFlow Max=2.76 cfs @ 12.09 hrs HW=12.04' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 2.76 cfs @ 5.07 fps)

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Stage-Area-Storage for Pond DW-1: DW-1

		1	
Elevation	Storage (cubic-feet)	Elevation	Storage (cubic-feet)
(feet) 9.85	(cubic-leet)	(feet) 12.45	47
9.90	1	12.50	47
9.95	2	12.55	48
10.00	3	12.60	49
10.05	4	12.65	50
10.10	4	12.70	51
10.15	5	12.75	52
10.20	6	12.80	54
10.25	7 8	12.85 12.90	55 55
10.30 10.35	9	12.95	56
10.40	10	13.00	57
10.45	11	13.05	58
10.50	12	13.10	58
10.55	13	13.15	59
10.60	13	13.20	60
10.65	14	13.25	60
10.70 10.75	15 16	13.30 13.35	61 62
10.73	17	13.33	02
10.85	18		
10.90	19		
10.95	20		
11.00	21		
11.05	21		
11.10 11.15	22 23		
11.13	23 24		
11.25	25		
11.30	26		
11.35	27		
11.40	28		
11.45	29		
11.50	29		
11.55 11.60	30 31		
11.65	32		
11.70	33		
11.75	34		
11.80	35		
11.85	36		
11.90 11.95	37		
12.00	38 38		
12.05	39		
12.10	40		
12.15	41		
12.20	42		
12.25	43		
12.30 12.35	44 45		
12.35	45 46		
12.70	40		

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Summary for Link POA: POA

Inflow Area = 0.379 ac, 89.49% Impervious, Inflow Depth = 7.52" for 100 yr event

Inflow = 2.92 cfs @ 12.09 hrs, Volume= 0.237 af

Primary = 2.92 cfs @ 12.09 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs